

April 12, 2006

MEMORANDUM

TO: Mr. Steve Murray, P.L.S. - Tippecanoe County Surveyor

FROM: David W. Eichelberger, P.E. - CBBEL, Indianapolis

PROJECT: **St. Andrew United Methodist Church
CBBEL Project No. 02-038 (ER)**

DEVELOPER/OWNER: **St. Andrew United Methodist Church**

LOCATION: **40° 29' 09" Latitude
-86° 54' 51" Longitude**

RECOMMENDATION: **Final Approval with Conditions**

St. Andrew United Methodist Church is proposing to construct a new church and associated parking on 18.3 acres located on the east side of County Road 50 West, approximately 1000' south of County Road 500 North in Wabash Township. The current land use is agricultural fields and pasture. Drainage for the site is primarily from east to west to the County Road 50 West right-of-way. In the developed condition, drainage from the site will be collected into a system of swales and culverts and directed into two dry detention basins, with the outlet being the right-of-way of County Road 50 West. The final outlet is Boes Ditch to the south of the site.

Based on information available to CBBEL, it does not appear that a Tippecanoe County Regulated Drain exists on the project site. There are no regulated drain outlets, crossings, or encroachments proposed with this development. The project site is within the Tippecanoe County MS4 Area.

This project was previously reviewed in a memorandum dated February 21, 2006. After a review of the most recently provided information, CBBEL recommends final approval of the stormwater management plan with the following conditions:

Variances/Encroachments

There are no variances or regulated drain encroachments proposed with this development.

Stormwater Quantity

1. The applicant should provide a post-developed condition basin map for the first phase of development and another post-developed condition basin map for the overall development. The applicant should verify that the parameter data is correctly labeled on these maps.
2. The Predeveloped Drainage Areas exhibit appears to indicate that a small portion of the development located to the north drains south onto the subject site. The applicant should review the Predeveloped Drainage Areas exhibit and either include this area in the calculations, or provide additional information confirming that this area does not drain to the site.

3. The applicant has provided an estimation of the expected performance of the proposed driveway culvert. This analysis should be revised to reflect proposed site conditions. A basin map, watershed parameter calculations, and discharge calculations should be provided for the peak design flows expected at the proposed culvert. Actual expected tailwater conditions and road overtopping information should be used in the analysis. Also, since the north pond emergency spillway will discharge flows to the upstream end of this culvert, the culvert should be sized such that C. R. 50 West will not be impacted by the expected emergency flows.

Stormwater Quality

1. The applicant should use the SCS Type II distribution, rather than the Huff 3rd Quartile distribution, to determine the water quality treatment rate. The applicant should then confirm or revise the size of the proposed BMP.
2. The applicant has submitted a completed "Recorded Master Covenant and Agreement Regarding On-Site BMP Maintenance and Drainage". The agreement should be revised to include not only the "StormCeptor Product" listed, but any other stormwater quality and quantity control devices proposed for this site, including the proposed ponds, swales, and pipes. This agreement must be recorded before final plan approval and sign-off will be granted by the County Surveyor's Office.

General Conditions

1. The applicant must present the project at the Tippecanoe County Drainage Board meeting for the project to be considered for approval.
2. The applicant should still obtain approval from the Tippecanoe County Highway Department for all work proposed within future right-of-way areas and for all work within the C. R. 50 West Right-of-Way.
3. The applicant must pay any final drainage review fees per Ordinance 2005-04-CM and submit a letter to the County Surveyor's Office stating that these fees will be paid.
4. The applicant must pay the Phase II stormwater program fees.
5. All listed issues must be completely addressed before final plan approval and sign-off will be granted by the County Surveyor's Office.

No error or omission in either the plans, calculations or applications (whether said plans, calculations or applications have been reviewed by the review engineer or not) shall permit or release the applicant and designer from constructing this work in any other manner than that provided for in the County Ordinance.

pc: T-Bird

DWE/sb

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